

REMARKS

Claims 1-35 are pending in this application, and in the Office Action, the Examiner rejected all of these claims, first, over the prior art, principally the "L4 User Manual" (Au, et al.), and second, under 35 U.S.C. §112, second paragraph, as being indefinite. Claims 4, 7-11, 13, 15 and 17 were further rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. The Examiner also required formal drawings.

More specifically, with respect to the rejection of the claims over the prior art, Claims 21, 26 and 31 were rejected under 35 U.S.C. §102 as being fully anticipated by Au, et al. and Claims 1-20, 22-25, 27-30 and 32-35 were rejected under 35 U.S.C. §103 as being unpatentable over Au, et al. in view of a paper "Operating System Protection for Fine-Grained Programs" (Jaeger, et al.).

Independent Claims 1, 21, 26 and 31 are being amended to better define the subject matters of these claims. Claims 4, 6, 8, 17, 18, 19 and 24 are being amended to improve the form of these claims. Also, the specification is being amended, care being taken to avoid adding new matter, to provide an express written description of the language of Claims 4, 7-11, 13, 15 and 17, and formal drawings for this application are being submitted herewith.

With regard to the amendment to the specification, the language of original Claims 4, 7-11, 13, 15 and 17 is basically being repeated in the Summary section of the specification, on page 5. The original claims provide the appropriate antecedent basis for the material being added to page 5 of the specification, and thus the inclusion of this material on page 5 of the specification is not new matter.

Moreover, as now amended, the specification provides a written description of the subject matters of Claims 4, 7-11, 13, 15 and 17, and the Examiner is respectfully requested to reconsider and to withdraw the rejection of these claims under 35 U.S.C. §112, first paragraph.

In addition, in view of the submission of the formal drawings, the Examiner is also requested to reconsider and to withdraw the objection to the drawings.

It is believed that the amendments to Claims also fully address the rejection of Claims 1-35 under 35 U.S.C. §112, second paragraph.

More specifically, in Claim 1, line 12, the period after “source” is being changed to a comma, as the Examiner suggested, and the “d”...“i” headings for the subparagraphs in the body of the claim are being removed, thereby eliminating the double use of “d” that the Examiner noted. In Claims 6 and 8, the parentheses are being removed, and the features described in those parentheses are being described positively in the claims. The phrase “in the same process” is being taken out of Claims 18 and 19.

Claim 17 is being amended to indicate that “the last” refers to the last monitor in the sequence of monitors described earlier in the claim. It is believed that this helps improve the readability of the claim.

In Claims 24, 29 and 34, “manages” is being changed to “determines,” so that these claims now describe the feature that “one or more of the monitors determines when the source is unblocked.” This description is clear and definite and accurately describes the fact that, in the practice of this invention, the monitors may be used to determine when the source of the interprocess communication is unblocked.

With respect to Claims 21, 26 and 31, these claims have been re-phrased to indicate more clearly what is meant by “same semantics.” With the present invention, generally, the interprocess communication (IPC) received by the destination appears to have the same semantics regardless of whether that communication is or is not intercepted and examined by an intermediate monitor – that is intermediate the source and destination of the communication. To describe this more clearly, the Claims 21, 26 and 31 indicate that the synchrony of the IPCs is controlled so that each IPC appears to the destination and to the source to have the same semantics regardless of whether the communication is sent directly from the source to the destination without being examined by the monitor, or the communication is sent from the source to the destination via the monitor and the monitor examines the communication.

Thus, the communication can be sent along one of two routes: (1) directly from the source to the destination, without being examined by the monitor, or (2) from the source to the destination via the monitor, which examines the communication. The semantics of the IPC do not change depending on which of these routes is taken, and in particular, the monitor does not change these semantics. As a result, the semantics of the IPC looks the same to the destination and to the source whether the IPC takes route (1) or route (2).

The descriptions in Claims 21, 26 and 31 of the procedure for controlling the semantics of the IPC are clear and definite. In particular, these descriptions clearly indicate what is meant by the phrase “same semantics.”

Applicants' Attorneys have carefully reviewed all of Claims 1-35, and these claims are clear and definite within the meaning of 35 U.S.C. §112. The Examiner is, consequently, respectfully asked to reconsider and to withdraw the rejection of Claims 1-35 under 35 U.S.C. §112, second paragraph.

Moreover, this feature of the invention – that the communication is controlled so that it appears to the source and to the destination to have the same semantics regardless of whether the communication was or was not intercepted and examined by the monitor – is not shown or suggested by the prior art.

The L4 User Manual describes procedures for sending communications from a source to a destination. However, as the Examiner has noted, this reference does not disclose a monitor to examine the communications intermediate the source and destination.

Monitors, per se, are known, and prior art monitors are discussed in the Background section of this application. As discussed therein, prior art monitors are not truly transparent because the kernel's IPC semantics are not preserved when a monitor intercepts an IPC.

The Jaeger article, which was authored by one of the present inventors, discusses monitors, but does not disclose a control procedure to effectively preserve the IPC semantics when the monitor is intercepted by the IPC.

The present invention, in contrast, achieves this.

Independent Claims 1, 21, 26 and 31 clearly describe the above-discussed feature of the invention. Specifically, each of these claims describe the feature that the IPC appears to the destination and to the source to have the same semantics regardless

of whether the IPC is sent directly from the source to the destination without being examined by the monitor, or the communication is sent from the source to the destination via the monitor and the monitor examines the communication.

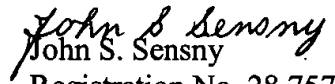
This feature is of utility because, as explained in the present application, it results in a truly transparent monitoring of the IPC.

The other references of record have been reviewed, and these other references, whether they are considered individually or in combination are not believed to be any more pertinent than the Au, et al. and Jaeger references discussed above.

Because of the above-discussed differences between Claims 1, 21, 26 and 31 and the prior art and because of the advantages associated with those differences, these claims patentably distinguish over the prior art and are allowable. Claims 2-20 are dependent from, and are allowable with, Claim 1; and Claims 22-26 are dependent from Claim 21 and are allowable therewith. Likewise, Claims 27-30 are dependent from Claim 26 and are allowable therewith; and Claims 32-36 are dependent from, and are allowable with, Claim 31. The Examiner is, accordingly, asked to reconsider and to withdraw the rejection of Claims 21, 26 and 31 under 35 U.S.C. §102 and the rejection of Claims 1-20, 22-25, 27-30 and 32-35 under 35 U.S.C. §103, and to allow Claims 1-35.

For the reasons set forth above, the Examiner is requested to reconsider and to withdraw the objection to the drawings, the rejection of Claims 1-35 under 35 U.S.C. §112, second paragraph, and the rejection of Claims 4, 7-11, 13, 15 and 17 under 35 U.S.C. §112, first paragraph. The Examiner is also asked to reconsider and to withdraw the rejection of Claims 21, 26 and 31 under 35 U.S.C. §102 and the rejection of Claims 1-20, 22-25, 27-30 and 32-35 under 35 U.S.C. §103, and to allow Claims 1-35. If the Examiner believes that a telephone conference with Applicants' Attorneys would be advantageous to the disposition of this case, the Examiner is asked to telephone the undersigned.

Respectfully submitted,


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Attachments: New Set of Formal Drawings
JSS:jy